Claims:

1. A method of removing water from natural gas which comprises: bringing the natural gas into contact with a liquid including an absorbent for the water; subjecting the natural gas and liquid to turbulent mixing conditions thereby causing the water to be absorbed by the absorbent; and separating a natural gas phase with reduced water content and a liquid phase including the absorbent and absorbed water; and in which the mixing is conducted in a turbulent contactor including a gas inlet, a liquid inlet, an outlet leading to a venturi passage and a tube extending from the outlet back upstream, the tube being perforated and/or being spaced from the periphery of the outlet.

2. A method as claimed Claim 1, in which the tube is located in a vessel, the vessel including the gas inlet, the liquid inlet and the outlet.

3. A method as claimed in Claim 2, in which the natural gas is supplied to the tube and the liquid is supplied to the vessel, and so the natural gas stream draws the liquid into the venturi and the two phases are mixed.

4. A method as claimed in Claim 2, in which the natural gas is supplied to the vessel and the liquid is supplied to the tube, whereby the natural gas is drawn into the venturi by the liquid and the two phases are mixed.

5. A method as claimed in Claim 2, in which the liquid and the natural gas are supplied to the vessel, the liquid being supplied to a level above the level of the outlet, whereby the natural gas is forced out through the outlet

via the tube, thereby drawing the liquid into the venturi so that the two phases are mixed.

6. A method as claimed in any preceding Claim, in which the method is carried out as a continuous process with the natural gas and liquid flowing co-currently.

7. A method as claimed in any preceding Claim, in which the natural gas and the liquid are formed into a homogeneous mixture in the contactor, the homogeneous mixture optionally being cooled prior to separation into a gas phase and a liquid phase.

8. A method as claimed in Claim 7, in which the homogeneous mixture is separated into a gas phase and a liquid phase in a hydrocyclone.

9. A method as claimed in any preceding Claim, in which the absorbent in the liquid phase is subjected to a regeneration treatment to remove the absorbed water.

10. A method as claimed in Claim 9, in which the regenerated absorbent-containing liquid phase is recycled to the contactor.

11. A method as claimed in Claim 10, in which the regeneration is carried out by heating and/or by flashing off the absorbed water.

12. A method as claimed in Claim 11, in which the post-mixing cooling and the regenerative heating are achieved, at least in part by mutual heat exchange.

13. A method as claimed in any preceding Claim, in which the absorbent is miscible with water.

14. A method as claimed in any of Claims 1 to 12, in which the absorbent is immiscible with water.

15. A method as claimed in any of Claims 1 to 12, in which the absorbent includes a glycol.

16. A method as claimed in Claim 15, in which the absorbent is monoethylene glycol, diethylene glycol, triethylene glycol or a mixture of any of these.

17. A method as claimed in any preceding Claim, in which the natural gas and liquid are subjected to two or more mixing steps.

18. A method as claimed in Claim 17, in which an additional mixing step is carried out before the turbulent mixing step.

19. A method as claimed in Claim 17 or Claim 18, in which an additional mixing step is carried out after the turbulent mixing step.

20. A method as claimed in Claim 18 or Claim 19 in which one or more additional mixing steps are turbulent mixing steps.

21. A method as claimed in Claim 20, in which the second mixing step is carried out in a second contactor, located in a pipe extending from the venturi passage of the first contactor.

22. A method as claimed in Claim 21, in which the fluid mixture is separated into a gas phase and a liquid phase between the two contactors, the phase separation preferably occurring in an annular flow generator.

23. A method as claimed in any of Claims 17 to 22, in which fresh liquid solvent is added to the second contactor.

24. Apparatus for removing water from natural gas by bringing the natural gas into contact with a liquid including an absorbent for the water, comprising: a turbulent contactor in which the natural gas and liquid are subjected to turbulent mixing conditions thereby causing the water to be absorbed by the absorbent; and a separator for separating a natural gas phase with reduced water content and a liquid phase including the absorbent and absorbed water; and in which the turbulent contactor comprises a gas inlet, a liquid inlet, an outlet leading to a venturi passage and a tube extending from the outlet back upstream, the tube being perforated and/or being spaced from the periphery of the outlet.

25. Apparatus as claimed Claim 24, in which the tube is located in a vessel, the vessel including the gas inlet, the liquid inlet and the outlet.

26. Apparatus as claimed in Claim 24 or Claim 25, in which the separator includes a hydrocyclone.

27. Apparatus as claimed in any of Claims 24 to 26, in which the separator includes an absorbent regenerator.

28. Apparatus as claimed in any of Claims 24 to 27, in which the contactor includes two or more contactor steps.

29. Apparatus as claimed in Claim 28, in which the second turbulent contactor is located in a pipe extending from the venturi section of the first contactor.

30. The use of one or more turbulent contactor for absorbing water from a natural gas stream, in which the gas stream is brought into contact with a liquid including an absorbent for water, at least one of the turbulent contactors comprising a gas inlet, a liquid inlet, an outlet leading to a venturi passage and a tube extending from the outlet back upstream.

31. A use as claimed in Claim 30, in which the second turbulent contactor is located in a pipe extending from the venturi section of the first contactor.

32. A use as claimed in Claim 30 or Claim 31, in which a gas phase and a liquid phase are separated after exit from a first turbulent contactor before entry into a second turbulent contactor, the phase separation preferably occurring in an annular flow generator.

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